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ABSTRACT

The expansion of doctoral education in the western United States is discussed. Changes that have occurred in the number and type of institutions conferring the doctorate degree and in the number of degrees conferred in each field of study are documented. The number of doctorate degrees, percentage increase over the previous period, and percentage for the west are tabulated for doctoral production from three western geographical areas and the entire United States for the years 1920 to 1977. Doctorate output in the west, by census region, for various time periods, and by field and sex of recipients are also provided. An increase in doctorate production in the western region of the U.S. is noted. The number of western universities conferring the doctorate degree increased from four in 1920 to approximately 60 by 1975. It is suggested that this type of information will provide a context for understanding and evaluating both the widely-reported oversupply of doctorates and the relative decline in governmental support for graduate study and research. (SF)

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Project on Expanding Regional Cooperation in Graduate & Professional Education

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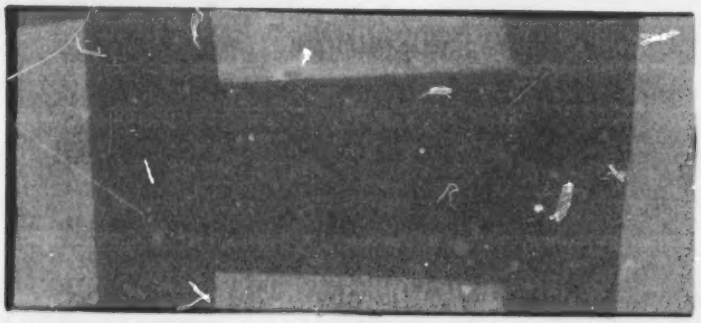
WICHE

Improving Education In The West

WICHE

The Western Interstate Commission for Higher Education is a nonprofit agency created in the 1950s by the governors and legislatures of the 13 western states. Through interstate sharing and research, WICHE helps states provide high-quality, cost-effective higher education to meet the human resource needs of the states and the education needs of the citizens. WICHE serves Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.



Project Intent

WICHE's project on Expanding Regional Cooperation in Graduate and Professional Education encourages resource sharing in graduate and professional education in the West by providing information about these programs throughout the region. The project is establishing an information system that will enable higher education decision makers to plan for the future of graduate and professional education from a regional perspective. The graduate education project is supported by a two-year grant from the Carnegie Corporation of New York and by WICHE state dues through its Student Exchange Program.

The project seeks to improve the effectiveness and efficiency of graduate education in the West so that both students and taxpayers are better served.

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THE GROWTH OF DOCTORAL-LEVEL EDUCATION IN THE WEST: A STATISTICAL PROFILE

Report 79-2

Compiled by

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May 1979

Western Interstate Commission for Higher Education

An Affirmative Action/Equal Opportunity Employer

P.O. Drawer P Boulder, Colorado 80302

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THE GROWTH OF DOCTORAL-LEVEL EDUCATION IN THE WEST: A STATISTICAL PROFILE

Overview

This brief report documents the expansion of doctoral education in the western United States by describing changes that have occurred in the number and type of institutions conferring the doctorate and in the number of degrees conferred in each field of study. The report is based primarily on data provided in the 1978 National Research Council publication, A Century of Doctorates.

These data provide a perspective on the growth and present magnitude of doctoral education in the western states. They also supply information useful for addressing policy questions related to doctorate production by institutions in the WICHE region. This report provides a context for understanding and evaluating both the widely reported projected oversupply of doctorates and the relative declines in governmental support for graduate study and research.

The dramatic growth and expansion of doctoral education that occurred nationwide during the 1960's and early 1970's was reflected in all thirteen WICHE states and exceeded in several of the states in the Rocky Mountain region. (The federal government divides the West into two regions--Rocky Mountain and Pacific--for purposes of organization and analysis. This report will use these categories for analytical purposes. Appendix I contains a listing of the states in each region.) Tables A through D provide an overview of trends in doctoral production over the past fifty years for the West and the nation as a whole and, within the West, for the Mountain and Pacific states.

Table A

WEST

Period	Number of Doctorates Conferred	% Increase Over Previous Period	% of U.S.
1920-24	284		6.8
1925-29	663	133	8.6
1930-34	1,021	54	8.5
1935-39	1,322	29	9.7
1940-44	1,433	08	9.7
1945-49	1,973	38	12.4
1950-54	5,450	176	14.1
1955-59	6,691	23	15.1
1960-64	10,204	53	16.7
1965-69	21,899	115	20.0
1970-74	33,083	51	20.0
1975-77	19,330	Not Computed	19.8

Table B

U.S.

Period	Number of Doctorates Conferred	% Increase Over Previous Period
1920-24	4,199	
1925-29	7,736	84
1930-34	11,977	55
1935-39	13,698	14
1940-44	14,724	7
1945-49	15,904	8
1950-54	30,671	93
1955-59	44,240	44
1960-64	62,266	41
1965-69	109,273	75
1970-74	165,747	52
1975-77	97,508	Not Computed

SOURCE: National Research Council, Commission on Human Resources.

Table C

PACIFIC

Period	Number of Doctorates Conferred	% Increase Over Previous Period	% of West
1920-24	274		96.5
1925-29	642	134	96.8
1930-34	967	51	94.7
1935-39	1,233	28	93.3
1940-44	1,372	11	91.6
1945-49	1,779	23	90.2
1950-54	4,594	158	84.3
1955-59	5,502	20	82.2
1960-64	7,972	45	78.1
1965-69	16,024	101	73.2
1970-74	23,018	44	69.6
1975-77	13,495	Not Computed	69.8

Table D

MOUNTAIN

Period	Number of Doctorates Conferred	% Increase Over Previous Period	% of West
1920-24	10		3.5
1925-29	21	110	3.2
1930-34	54	148	5.3
1935-39	89	65	6.7
1940-44	121	36	8.4
1945-49	194	60	9.8
1950-54	856	341	15.7
1955-59	1,189	39	17.8
1960-64	2,232	88	21.9
1965-69	5,875	163	26.8
1970-74	10,065	71	30.4
1975-77	5,835	Not Computed	30.2

SOURCE: National Research Council, Commission on Human Resources.

Institutional Expansion

The number of western universities conferring the doctorate increased from four--all on the Pacific Coast--in 1920 to approximately sixty in the mid-1970's. Of these sixty, the Carnegie Commission classifies thirty-eight as research universities. Fourteen of these thirty-eight are classified as Research University I. The remaining doctorate-granting institutions include other four-year institutions, specialized schools, and medical and theological schools. Appendix II contains a listing of these institutions and their Carnegie Classifications.

Two factors account for the increase in doctorate production in the region. First, older, established universities have been awarding an increasing number of doctorates. Second, more institutions have begun to award the degree. This latter point has been evident in the emergence of new doctorate-granting institutions in the 1960's and 1970's, and in the rather late entrance of several major state universities. For example, the University of Utah, University of California-Davis and University of New Mexico awarded their first doctorates in the late 1940's. Colorado State University and Arizona State University did not award the doctorate until the mid-50's. Data from the National Research Council are available for thirty-two institutions in the region. The figures below indicate the number of those institutions which began awarding doctorates during each decade since the 1920's:

1920-29	10
1930-39	5
1940-49	5
1950-59	9
1960-69	3

The tables and chart in Appendix III document the increase in the number of doctorate-granting institutions nationwide.

Doctorates Conferred

The increase in the number of doctorates granted has not occurred evenly throughout the West. The Pacific Coast states developed quite early, but the Mountain states did not develop until the post-World War II period. Table 1 and Figure 1 illustrate these growth trends. Table 1 depicts the relative growth of each region of the nation.

The number of doctorates awarded in the Pacific states increased one hundred-fold over the fifty-year period 1920-24 to 1970-74. During that time, the proportion of the national total of doctorates awarded in the Pacific region increased from 6.5 percent in the earliest half decade to 13.9 percent in the latest. This proportion has been relatively stable over the past fifteen years.

Compared to the well-established place of doctoral-level education in the Pacific states, the Mountain states are new contributors to the enterprise. Of the 20,706 doctorates granted by institutions in the Mountain states during the years 1920 to 1974, nearly half came in the latest five years, and more than three-fourths were awarded in the last decade, 1965-1974. The increase from ten doctorates awarded in the 1920-24 span to 10,065 in 1970-74 represents a factor of ten thousand. The Mountain states' percentage of all doctorates awarded in the West increased from 3.5 percent in 1920-24 to 30.4 percent in 1970-74. The corresponding increase in the percentage of the national total was from 0.2 percent to 6.1 percent.

Table 1

DOCTORATE OUTPUT IN THE WEST, BY CENSUS REGION*

AND FIVE-YEAR PERIODS, 1920-1974

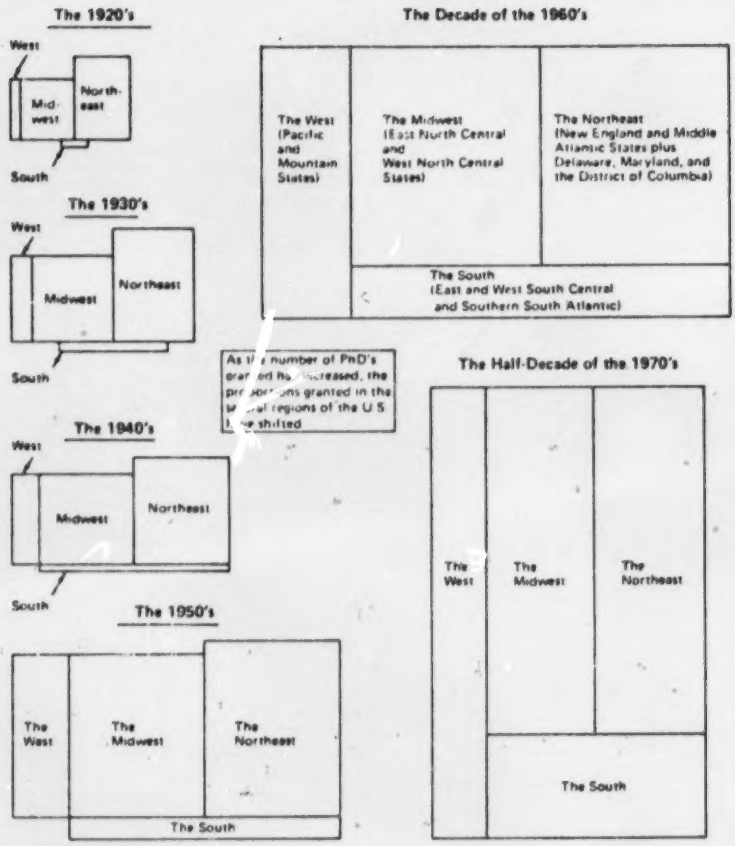
Region	1920-24	1925-29	1930-34	1935-39	1940-44	1945-49	1950-54	1955-59	1960-64	1965-69	1970-74
Mountain States											
Number	10	21	54	89	121	194	856	1,189	2,232	5,875	10,065
% of Western Total	3.5	3.2	5.3	6.7	8.4	9.8	15.7	17.8	21.9	26.8	30.4
% of National Total	0.2	0.3	0.5	0.6	0.8	1.2	2.2	2.7	3.6	5.4	6.1
Pacific States											
Number	274	642	967	1,233	1,312	1,779	4,594	5,502	7,972	16,024	23,018
% of Western Total	96.5	96.8	94.7	93.3	91.6	90.2	84.3	82.2	78.1	73.2	69.6
% of National Total	6.5	8.3	8.1	9.0	8.9	11.2	11.9	12.4	13.0	14.7	13.9
Western Total											
Number	284	663	1,021	1,322	1,433	1,973	5,450	6,691	10,204	21,899	33,083
% of National Total	6.8	8.6	8.5	9.7	9.7	12.4	14.1	15.1	16.7	20.0	20.0
U.S. Total											
Number	4,199	7,736	11,977	13,698	14,724	15,904	38,671	44,240	61,266	109,273	165,747

*The Mountain States include: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
The Pacific States include: Washington, Oregon, California, Alaska, and Hawaii.

SOURCE: National Research Council, Commission on Human Resources.

Figure 1

DIAGRAMS OF PH.D. GROWTH IN FOUR GEOGRAPHIC AREAS



SOURCE: NRC, Commission on Human Resources

These different regional rates of growth combined to produce an overall pattern in which the percentage of doctorates conferred by institutions in the West has increased from 6.8 percent of the national total in the period 1920-24 to 20.0 percent in 1970-74. Figure 1 presents a graphic illustration of this growth in relation to the other geographic regions in the United States over the five and a half decades.

Table 2 depicts these data by state for three aggregated time periods: 1920-59, 1960-69 and 1970-74. The table shows, for each state and time period, the number of doctorates conferred by institutions in the West and their percentage of the regional totals. While California still grants half of all doctorates in the region, several states--Utah, Oregon, Washington, Arizona, and Colorado--grant a fair proportion of the remaining doctorates. Utah and Arizona have shown the greatest growth in the number of doctoral degrees conferred over the last fifteen years.

Table 3 presents the number of doctorates awarded in each of the western states in 1975, 1976 and 1977--the most recent year for which data are available. The total number of doctorates awarded in the thirteen WICHE states in each of the three years is down in 1977 to a total of 6,314 from an annual average of 6,617 doctorates granted in the period 1970-74. This decline is consistent with the movement nationwide which saw the largest number of doctorates conferred in 1973 and modest year-to-year declines in each subsequent year. Eight of the thirteen western states awarded fewer doctorates in 1977 than in 1975. This trend, according to Lewis Solmon of the Higher Education Research Institute in Los Angeles, may be temporary. Solmon, in a presentation at the annual meeting of the American Association

Table 2

DOCTORATE OUTPUT IN THE WEST, BY STATE AND CENSUS REGION, AND AGGREGATED TIME PERIOD, 1920-1974

State	1920-1959		1960-1969		1970-1974		Total 1920-1974	
	N	(%)	N	(%)	N	(%)	N	(%)
*Alaska	4	(0.02%)	30	(0.09%)	41	(0.1%)	75	(0.1%)
Arizona	118	(0.6)	1,425	(4.4)	2,098	(6.3)	3,641	(4.3)
*California	13,592	(72.2)	18,359	(57.2)	17,082	(51.6)	49,033	(58.4)
Colorado	1,662	(8.8)	3,539	(11.0)	3,425	(10.4)	8,626	(10.3)
*Hawaii	17	(0.09)	255	(0.8)	439	(1.3)	711	(0.8)
Idaho	---	---	142	(0.4)	311	(0.9)	453	(0.5)
Montana	19	(0.1)	290	(0.9)	415	(1.3)	724	(0.9)
Nevada	---	---	38	(0.1)	92	(0.3)	130	(0.2)
New Mexico	114	(0.6)	633	(2.0)	1,051	(3.2)	1,798	(2.1)
*Oregon	851	(4.5)	2,380	(7.4)	2,625	(7.9)	5,856	(7.0)
Utah	501	(2.7)	1,679	(5.2)	2,246	(6.8)	4,426	(5.3)
*Washington	1,839	(9.8)	2,966	(9.2)	2,804	(8.5)	7,609	(9.1)
Wyoming	120	(0.6)	361	(1.1)	427	(1.3)	908	(1.1)
Mountain States	2,534	(13.5)	8,107	(25.3)	10,065	(30.4)	20,706	(24.6)
Pacific States	16,303	(86.5)	23,996	(74.7)	23,018	(69.6)	63,317	(75.4)
Total	18,837	(100.0%)	32,103	(99.8%)	33,083	(99.9%)	84,023	(99.1%)*

*Total percentages do not sum to 100 due to rounding.

SOURCE: National Research Council, Commission on Human Resources.

Table 3

DOCTORATE OUTPUT IN THE WEST BY

STATE AND CENSUS REGION, 1975-1977

	1975		1976		1977	
	N	(%)	N	(%)	N	(%)
Alaska	9	(0.1%)	8	(0.1%)	5	(0.1%)
Arizona	413	(6.4)	389	(6.0)	415	(6.6)
California	3,383	(52.2)	3,546	(54.5)	3,390	(53.7)
Colorado	697	(10.7)	723	(11.1)	703	(11.1)
Hawaii	94	(1.4)	116	(1.8)	135	(2.1)
Idaho	65	(1.0)	70	(1.1)	49	(0.8)
Montana	81	(1.2)	67	(1.0)	63	(1.0)
Nevada	15	(0.2)	24	(0.4)	33	(0.5)
New Mexico	186	(2.9)	160	(2.5)	163	(2.6)
Oregon	467	(7.2)	399	(6.1)	405	(6.4)
Utah	458	(7.1)	440	(6.8)	428	(6.8)
Washington	539	(8.3)	520	(8.0)	462	(7.3)
Wyoming	80	(1.2)	49	(0.8)	63	(1.0)
Mountain States	1,995	(30.8)	1,922	(29.5)	1,917	(30.4)
Pacific States	4,492	(69.2)	4,589	(70.5)	4,397	(69.6)
Western, Total	6,487	(100.0%)	6,511	(100.0%)	6,314	(100.0%)

SOURCE: National Research Council, Commission on Human Resources.

for Higher Education in April 1979, said that his research indicates that current doctoral students are staying in school longer as a means of delaying entry into a tight job market. Solmon expects the number of Ph.D.s awarded annually to increase in the next few years, possibly to near-record levels nationally.

Recent Trends

Nationally, the number of doctorates awarded to women has risen each year from 1975 to 1977, while the number of male doctorate recipients has declined. Over these three years, women earned 23.3 percent of all doctorates nationally, but only 20.3 percent of doctorates awarded in the West.

During the years 1975 through 1977, which saw an overall decline in the number of doctorates awarded in the West, the number of doctorates awarded to women increased. During this period, the number of doctorates awarded to men in each of seven discipline groups declined, resulting in an overall decline in doctorates awarded and in an increasing proportion of doctorates earned by women. Table 4 displays the number of doctorates awarded to men and women and the percentage of doctorates awarded to women in each of these seven broad fields. In the period 1975-77, women earned 3,924 doctorates, or 20.3 percent of the total awarded in the WICHE region. The proportion of female doctorate recipients ranged from a high of nearly 35 percent in the humanities to a low of less than 2 percent in engineering. Historically, in the West, the highest proportion of doctorates earned by women has been in the humanities rather than in education where women constitute a majority of Ph.D. degree recipients nationally.

Table 4

NUMBER OF DOCTORATE RECIPIENTS

IN THE WEST BY FIELD AND SEX

Fields	1920-59			1960-69			1970-74			1975-77		
	Men	Women	Women as % of Total	Men	Women	Women as % of Total	Men	Women	Women as % of Total	Men	Women	Women as % of Total
Physical Sciences	4,789	174	3.5	7,032	284	3.9	5,371	319	5.6	2,883	214	6.9
Engineering	1,143	--	--	4,065	19	0.4	3,318	35	0.9	1,998	36	1.7
Life Sciences	3,153	348	9.9	4,878	558	10.3	4,640	774	14.3	2,542	578	18.5
Behavioral Sciences	2,358	282	10.7	3,772	649	14.7	4,601	1,124	19.6	3,096	1,009	24.6
Humanities	2,157	459	17.5	2,975	688	18.8	2,860	1,141	28.5	1,582	848	34.9
Professions	173	11	6.0	797	53	6.2	1,027	109	9.6	515	117	18.5
Education	3,133	560	15.2	5,185	952	15.5	5,495	1,458	21.0	2,758	1,118	28.8
Total*	17,002	1,834	9.7	28,742	3,203	10.0	27,834	4,962	15.1	15,388	3,924	20.3

*Excludes the following numbers of doctorate recipients whose fields are unknown:

1920-59	1
1960-69	158
1970-74	287
1975-77	18

Table 5 depicts the average number of doctorates awarded annually for four time periods and among seven broad discipline groups. The average number of doctorates awarded to women annually rose from 61 for the period 1920-59 to 1,308 for the years 1975-77. Table 5 shows the modest gains made by women in fields like engineering and the physical sciences and the fairly significant gains in the life sciences and behavioral sciences. Statistical evidence is not available on the numbers of men and women who forego doctoral study because of projected oversupplies of Ph.D.s, but if current patterns of degree production continue, then women may soon comprise half the doctorate recipients in the West in the humanities and a near majority of new doctorates in education and the life sciences.

Recent attention has also been drawn to the number of foreign citizens earning degrees from American colleges and universities. Between 1975 and 1977 the number of U.S. citizens earning doctorates declined by 1,000, while the total number of doctorates awarded to foreign students was down 429. Because the proportion of males among foreign Ph.D. recipients is much higher than among Americans, this situation also contributes to increasing the overall proportion of women doctorate recipients. It is interesting to note, in addition, that the proportional decline in foreign doctorate recipients matches that of U.S. citizens, leaving the overall percentage of doctorates awarded to U.S. citizens constant at 82 percent over the last three years. Corresponding data for the West alone is not available at this time.

TABLE 5

Average Number of Doctorates Awarded Per Year
in the Western United States
by Field and Sex of Recipients

	Physical Sciences			Engineering			Life Sciences			Behavioral Sciences			Humanities			Professions			Education			Total	
	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W
1920-59	160	6	166	38	0	38	105	12	117	79	9	88	72	15	89	6	0	6	104	19	123	564	61
1960-69	703	28	731	407	2	409	488	56	544	377	65	442	298	69	367	80	5	85	519	95	614	2872	320
1970-74	1074	64	1138	764	7	771	928	186	1114	920	225	1145	572	228	800	205	22	227	1099	292	1391	5562	1024
1975-77	961	71	1032	666	12	678	847	284	1131	1032	336	1368	527	283	810	172	39	211	919	373	1292	5124	1308

SOURCE: National Research Council, Commission on Human Resources.

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APPENDIX I

THE NINE CENSUS REGIONS OF THE UNITED STATES

States in Each Region:

1. New England: Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut
2. Middle Atlantic: New York, New Jersey, Pennsylvania
3. East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin
4. West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas
5. South Atlantic: Delaware, Maryland, D.C., Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida
6. East South Central: Kentucky, Tennessee, Alabama, Mississippi
7. West South Central: Arkansas, Louisiana, Oklahoma, Texas
8. Mountain: Montana, Wyoming, Colorado, New Mexico, Arizona, Utah
9. Pacific: Washington, Oregon, California, Alaska, Hawaii (plus Puerto Rico and Panama Canal Zone)

1970 Population by Census Region (in thousands)

New England	11,842	East South Central	12,803
Middle Atlantic	37,199	West South Central	19,321
East North Central	40,252	Mountain	8,282
West North Central	16,319	Pacific	26,523
South Atlantic	30,671	TOTAL U.S.	203,212

SOURCE: NRC, Commission on Human Resources

APPENDIX II

Alphabetical Listing of Ph.D.-Granting Institutions in the West, With Carnegie Classification, Numbers of Ph.D.'s, and Rank Orders, by Sex and Total, 1920-1974

Carnegie Classification[1]	Institution	Decade First Doctorate Awarded	Male		Female		Both Sexes	
			Number	Rank[2]	Number	Rank[2]	Number	Rank[2]
1.4	Alaska, Univ of	1950	73	38	2	44	75	39
1.3	Arizona State Univ	1950	1230	15	234	12	1464	15
1.1	Arizona, Univ of	1920	1931	12	237	10	2168	11
1.3	Brigham Young U/UT	1920	675	25	58	25	733	25
1.1	Cal Inst Technology	1920[3]	2773	8	55	27	2828	8
1.1	Calif, U-Berkeley	1920[3]	13535	1	1897	1	15432	1
1.1	Calif, U-Davis	1940	1990	11	164	14	2154	12
1.2	Calif, U-Irvine		279	31	68	24	347	31
1.1	Calif, U-Los Angeles	1930	6297	3	1232	2	7529	3
1.3	Calif, U-Riverside		781	23	79	22	860	23
1.1	Calif, U-San Diego		786	22	106	19	892	21
5.2	Cal, U-San Francisco	1960	243	34	83	21	326	32
1.3	Calif, U-Santa Barb		689	24	71	23	760	24
1.3	Calif, U-Santa Cruz		68	39	24	35	92	38
1.2	Claremnt Grad Sch/CA	1930	818	21	133	17	951	19
5.4	Colorado Sch Mines	1920	264	33	1	46	265	34
1.1	Colorado State Univ	1950	1138	18	52	28	1190	18
1.1	Colorado, U-Boulder	1920	3174	6	529	6	3703	6
1.3	Denver, Univ of/CO	1940	1197	16	232	13	1429	16
1.1	Hawaii, Univ of	1930	620	26	91	20	711	26
1.4	Idaho State Univ		25	43	11	39	36	41
1.3	Idaho, Univ of		384	29	33	30	417	29
1.4	Loma Linda Univ/CA	1950	24	44	4	41	28	45
1.3	Montana State Univ	1950	412	27	25	34	437	28
1.3	Montana, Univ of		266	32	21	36	287	33
1.4	Nevada, U-Las Vegas		(Data Not Available)					
1.4	Nevada, U-Reno		114	37	16	37	130	37
2.2	N Mexico Highlands U		3	49			3	50
5.4	N Mex I Mining & Tech	1950	39	40	2	44	41	40
1.3	New Mexico State U	1960	331	30	29	32	360	30
1.2	New Mexico, Univ of	1940	1158	17	236	11	1394	17
2.1	Northern Arizona U		8	46	1	46	9	46
1.3	Northern Colorado,U	1930	1759	14	280	8	2039	13
3.1	Occidental Coll/CA		19	45	14	38	33	43
1.2	Oregon, Univ of	1920	2776	7	468	7	3244	7
5.2	Oregon U-Sch Med		31	41	4	41	35	42
1.1	Oregon State Univ	1930	2234	10	142	16	2376	10
2.1	Portland State U/OR		4	48	3	42	7	48
1.4	Pacific, U of/CA	1950	172	35	32	31	204	35
2.1	Portland, Univ of/OR	1950	165	36	28	33	193	36
2.1	Redlands, U of/CA		8	46	1	46	9	46
2.1	Santa Clara, U of/CA		28	42	2	44	30	44
1.1	Southern Calif, U of	1920	5347	4	996	4	6343	4
1.1	Stanford Univ/CA	1920[3]	8392	2	1095	3	9487	2
1.4	U S Internatl U/CA		390	28	117	18	507	27
1.1	Utah, Univ of	1940	2571	9	248	9	2819	9
1.2	Utah State Univ	1950	827	20	47	29	874	22
1.2	Washington State U	1920	1787	13	119	15	1906	14
1.1	Washington, U of	1920[3]	5055	5	648	5	5703	5
1.3	Wyoming, Univ of	1940	851	19	57	26	908	20

[1] 1.1 = Research University I; 1.2 = Research University II; 1.3 = Doctorate-Granting I; 1.4 = Doctorate-Granting II; 2.1 = Comprehensive Universities and Colleges I; 3.1 = Liberal Arts Colleges I; 5.2 = Medical schools and medical centers; 5.4 = Schools of Engineering and technology

[2] The word "rank" is used in the statistical sense of "order according to a statistical characteristic" (e.g., the number of doctorates granted); its use is not intended to imply degree of eminence or excellence.

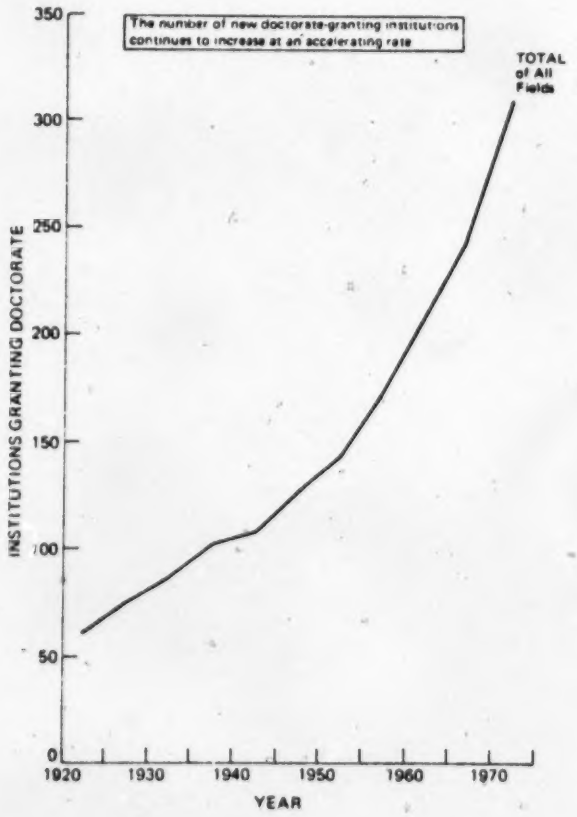
[3] First doctorates awarded in 1920 or before.

SOURCES: National Research Council, Commission on Human Resources. Carnegie Council on Policy Studies in Higher Education.

APPENDIX III

NUMBER OF DOCTORATE-GRANTING INSTITUTIONS IN THE UNITED STATES BY 5-YEAR PERIODS, 1920-1974

	Time Period										
	1920-1924	1925-1929	1930-1934	1935-1939	1940-1944	1945-1949	1950-1954	1955-1959	1960-1964	1965-1969	1970-1974
Number of Institutions	61	75	87	102	107	126	142	171	208	244	307



SOURCE: National Research Council, Commission on Human Resources

PROJECT ON EXPANDING REGIONAL COOPERATION IN GRADUATE AND PROFESSIONAL EDUCATION

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